CLAIM AMENDMENTS

1. *(Withdrawn)* A composition comprising proliferating primate pluripotent stem (pPS) cells, which is essentially free of feeder cells.

2 to 15. *CANCELLED*

16. *(Currently amended)* A method of screening a substance, comprising contacting a differentiated cell ~~according to claim 15~~ with the substance, and, determining any phenotypic or metabolic changes in the cell that result from contact with the compound, and correlating the change with cellular toxicity or modulation ; wherein the differentiated cell has been obtained by:

a) obtaining a line of human embryonic stem cells growing on an extracellular matrix instead of feeder cells; and

b) causing cells in the culture to differentiate into the population of differentiated cells.

17 to 36. *CANCELLED*

37. *(Currently amended)* ~~The method of claim 16,~~ A method of screening a substance, comprising:

a) obtaining a culture of undifferentiated pPS cells proliferating ~~in a growth environment that is essentially free~~ on an extracellular matrix instead of feeder cells;

b) optionally causing or permitting the pPS cells to differentiate; then

c) combining the cells with the substance; and

d) determining any effect of the substance on the cells.

38. *(Currently amended)* The method of claim 37, wherein the extracellular matrix upon which the undifferentiated pPS cells are cultured ~~on extracellular matrix components (such as Matrigel®, laminin, or collagen) in the absence of feeder cells~~ is Matrigel® basement membrane matrix, laminin, or collagen.

39. *(Previously presented)* The method of claim 37, wherein the cells are undifferentiated when contacted with the substance.

40. *(Previously presented)* The method of claim 37, wherein the cells have been caused or permitted to differentiate before being contacted with the substance.

41. *(Previously presented)* The method of claim 40, wherein the cells have been caused to differentiate by a process comprising replating them onto a surface that promotes differentiation.

42. *(Previously presented)* The method of claim 40, wherein the cells have been caused to differentiate by adding component(s) to the medium that promote differentiation towards a particular cell lineage.

43. *(Previously presented)* The method of claim 40, comprising causing the cells to differentiate into cells having characteristics of neuronal cells, glial cells, or neural precursors.

44. *(Previously presented)* The method of claim 40, comprising causing the cells to differentiate into cells having characteristics of hepatocytes.

45. *(Previously presented)* The method of claim 37, wherein the pPS cells are human embryonic stem (hES) cells.

46. *(Previously presented)* The method of claim 37, comprising determining the effect of the substance on growth of the cells.

47. *(Previously presented)* The method of claim 37, comprising determining whether the compound affects differentiation of the cells.

48. *(Previously presented)* The method of claim 37, comprising determining whether the compound affects expression of a marker or receptor by the cells.

49. *(Previously presented)* The method of claim 37, comprising determining whether the compound affects release of a marker or enzyme from the cells

50. *(Previously presented)* The method of claim 37, comprising determining whether the compound affects DNA synthesis or repair in the cells.

51. *(Previously presented)* The method of claim 37, comprising analyzing the cells by metaphase spread.

52. *(Previously presented)* The method of claim 37, comprising determining whether the compound is toxic to the cells.

53. *(New)* A method of screening a substance for its effect on undifferentiated human embryonic stem (hES) cells, comprising:

a) obtaining a culture of undifferentiated hES cells proliferating on an extracellular matrix instead of feeder cells;

b) combining the undifferentiated hES cells with the substance; and

c) determining any effect of the substance on the cells.

54. *(New)* The method of claim 53, comprising determining the effect of the substance on growth of the cells.

55. *(New)* The method of claim 53, comprising determining whether the compound affects differentiation of the cells.

56. *(New)* The method of claim 53, comprising determining whether the compound affects expression of a marker or receptor by the cells.

57. *(New)* The method of claim 53, comprising determining whether the compound is toxic to the cells.

58. *(New)* The method of claim 16, comprising causing the cells to differentiate into cells having characteristics of neuronal cells, glial cells, or neural precursors.

59. *(New)* The method of claim 16, comprising causing the cells to differentiate into cells having characteristics of hepatocytes.

60. *(New)* The method of claim 16, comprising determining the effect of the substance on growth of the cells.

61. *(New)* The method of claim 16, comprising determining whether the compound affects expression of a marker or receptor by the cells.

62. *(New)* The method of claim 16, comprising determining whether the compound is toxic to the cells.

Upon allowance of the application, please renumber the claims as follows:

Claim	1	→	28
	16	→	22
	37	→	1
	38	→	2
	39	→	3
	40	→	4
	41	→	5
	42	→	6
	43	→	7
	44	→	8
	45	→	9
	46	→	10
	47	→	11
	48	→	12
	49	→	13
	50	→	14

Claim	51	→	15
	52	→	16
	53	→	17
	54	→	18
	55	→	19
	56	→	20
	57	→	21
	58	→	23
	59	→	24
	60	→	25
	61	→	26
	62	→	27